

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-18 (canceled)

19. (new) A moisture sensor for detecting the presence of moisture comprising an electric circuit and ICPs (intrinsic conduction polymers), wherein the moisture sensor comprises two layers of different electrochemical potential, at least one of said layers comprising said ICPs, and a dielectric separating said layers and being of a type capable of absorbing moisture and said moisture sensor being arranged for detecting, in use, said moisture as a voltage difference between the layers.

20. (new) A moisture sensor according to claim 19, wherein one of said layers is a metal, such as aluminum.

21. (new) A moisture sensor according to claim 19, wherein said two layers both comprise ICPs.

22. (new) A moisture sensor according to claim 19, wherein said electric circuit is adapted to use said voltage difference as an energy source.

23. (new) A diaper provided with a moisture sensor according to claim 19.